

REMARKS

Prior to the present amendment, applicants canceled claims 1 through 31 and added new claims 32-46. By this amendment, applicants canceled claims 37, 38, 44, and 45 for being drawn to non-elected inventions, and canceled claim 46. Accordingly, claims 32-36 and 39-43 are currently under examination. The claim amendments do not add new matter.

Interview

Applicants wish to thank Examiner Bristol for the courtesy of a telephone interview with applicants' representatives, James Harrington and the undersigned, on March 31, 2008. During the telephone interview, the rejections presented in the final Office Action of January 4, 2008 were discussed. Applicants' representatives appreciate the thorough analysis and explanations provided by Examiner Bristol during the interview. The discussion below contains a summary of the interview. In general, applicants' representatives and the examiner discussed the rejection under 35 U.S.C. § 103 and suggested amendments and arguments to overcome the rejection.

Rejection of claims 32-36, 39-42, and 46 under 35U.S.C. § 103(a) over Tormo, et al., Freyre, et al., as evidenced by Ayala, et al., and Holliger, et al.

On page 8 of the office action, the examiner rejects claims 32-36, 39-42, and 46 as being obvious over Tormo, et al. (*APMIS*, 97(12): 1073-80 (1989)), in view of Freyre, et al. (*J. Biotechnol.* 76:157-163 (2000)), as evidenced by Ayala, et al. (*Conf. on Plant-Made*

Pharmaceuticals 2005; Abstract), in further view of Holliger, et al. (*PNAS*, 90: 6444-6448 (1993)).

The examiner states that the claimed monomeric single chain variable fragment (scFv) of SEQ ID NO: 16, the diabody scFv of SEQ ID NO: 17, and the pharmaceutical compositions comprising the sequences are obvious in view of Tormo, Freyre, Ayala, and Holliger references. According to the examiner, the sequences of SEQ ID NOs: 16 and 17 were derived from a parent antibody produced by the CB/ior-CEA.1 hybridoma disclosed in Tormo.

The examiner acknowledges, however, that Tormo, et al. does not disclose monomeric and diabody scFvs. The examiner cites Freye for its disclosure of an scFv that was produced by using CB/ior-CEA.1 hybridoma. The examiner notes that the scFv produced by Freye had a reduction in antigen binding capabilities due to mutations that were introduced during cloning, as evidenced by Ayala. The examiner relies on Holliger for disclosing an alternative method of producing monoclonal and diabody scFvs that allegedly results in an improved antibody fragment. According to the examiner, one skilled in the art would have been motivated to combine the techniques of Tormo, Freyre, and Holliger to obtain the claimed invention.

Applicants respectfully disagree. None of the cited references teach or suggest the claimed amino acid sequences set forth in SEQ ID NOs: 16 or 17. In the first office action, issued on June 7, 2007, the examiner did not reject original claims 2 and 4 in view of the same combination of references. Claim 2 recited a monomeric scFv comprising SEQ ID NO: 16, and claim 4 recited a diabody scFv comprising SEQ ID NO: 17.

Merely in order to expedite prosecution, applicants have amended the claims to recite “consisting of” an amino acid sequence as set forth in SEQ ID NO: 16 or SEQ ID NO: 17. The cited references, individually and in combination, do not teach or suggest the claimed invention. During the telephone interview on March 31, 2008 with applicants’ representatives, Examiner Bristol indicated that the amendment may be a possible option to address the rejection. Applicants wish to thank Examiner Bristol for her thoughtful consideration and analysis.

Accordingly, applicants respectfully request that the examiner reconsiders and withdraws the rejection under 35 U.S.C. §103(a).

Rejection of claim 46 under 35U.S.C. § 112, second paragraph

On page 7 of the office action, the examiner rejects claim 46 as being indefinite for reciting “comprising an amino acid sequence as set forth in SEQ ID NO: 16 *and* SEQ ID NO: 17” (emphasis added). According to the examiner, claim 46 is not clear with regard to whether the antibody should comprise both the monomeric (SEQ ID NO: 16) and dimeric (SEQ ID NO: 17) sequences within the same molecule, or whether the antibody comprises one or the other sequences.

Applicants have canceled claim 46. Accordingly the rejection is moot. Applicants respectfully request withdrawal of the rejection.

Conclusion

In view of the foregoing amendments and remarks, entry of the amendments to the claims and favorable thereof are respectfully requested.

Applicants: Cowley et al.
Serial No.: 10/511,794
Our Docket: 976-20 PCT/US
Page 7 of 7

Response to Final Office Action

If any additional fees are due or any overpayment has been made in connection with filing this paper, please charge or credit our Deposit Account No. 08-2461 for such sum. If the examiner has any questions or concerns regarding this amendment, she is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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